In the Specification:

Please replace the paragraph beginning on page 1, line 14, with the following rewritten paragraph:

a1

In recent years, liquid crystal display devices have been widely used because of their advantageous features, such as thinness, lightness, low driving voltage, and low power consumption. Particularly, active-matrix liquid crystal display devices having an active element for each pixel, such as TFT-LCDs (Thin Film Transistor Liquid Crystal Displays) have been becoming comparable with CRTs in terms of display quality.

Please replace the paragraph beginning on page 1, line 23, with the following rewritten paragraph:

a2

However, the use of LCDs has been limited due to a narrow viewing angle. In order to eliminate this problem, various techniques have been suggested. Among those techniques, there are many techniques in which electrodes are patterned so as to control the inclinations of liquid molecules in various directions by changing the field distribution in cells. However, the electrode patterning techniques cause problems described later herein. The present invention can be applied to all of the electrode patterning techniques, and easily solve those problems.

Please replace the paragraph beginning on page 2, line 25, with the following rewritten paragraph:

a3

As shown in FIG. 1B, a voltage is applied between the alignment layers 10 and 11, thereby straightening the liquid crystal molecules and eliminating the twist. However, on the surfaces of the alignment layers 10 and 11, the liquid crystal molecules remain along the alignment layers 10 and 11 due to the strong orientation force. In this situation, the liquid crystal 12 is almost homeotropic with the linearly polarized light, and no rotation of the polarizing direction occurs. Here, the display is in a dark state. When the voltage is zero, the display returns to a bright state due to the orientation force y on the alignment layers.

Please replace the paragraph beginning on page 3, line 37, with the following rewritten paragraph:

a4

There have been dramatic improvements in the TN-type TFT-LCD production techniques, and, in recent years, the TN-type TFT-LCD production techniques excel CRTs in contrast ratio and color reproducibility. However, the LCDs have a narrow viewing angle. Particularly, a TN-type has only a very narrow viewing angle in the vertical direction. Viewed from some other direction, the brightness of the black state increases, making the image whitish. Viewed from the other direction, the display becomes dark, and gray-scale inversion occurs.

Please replace the paragraph beginning on page 6, line 17, with the following rewritten paragraph:

a5

In the IPS method, the liquid crystal are switched in the horizontal direction. As mentioned before, when the liquid crystal molecules are aligned with an inclined angle to the substrates, the birefringence varies with the viewing angle direction. The switching is carried out in the horizontal direction so as to steady the birefringence and obtain excellent viewing angle characteristics. However, this method also causes several problems. First of all, the response is very slow, because the switching is carried out with an electrode gap of about 10 μm in the IPS method, compared with the switching with an electrode gap of about 5 μm in the conventional TN method. The response time can be shortened by narrowing the electrode gap, but each two adjacent electrodes needs to have a different electrical potential to apply an electrical field. Otherwise, short-circuiting will occur between the adjacent electrodes, resulting in a display with defects. To avoid such a problem, each two adjacent electrodes are formed on two different layers, but this simply increases the number of manufacturing processes.

Please replace the paragraph beginning on page 11, line 32, with the following rewritten paragraph:

A5 End

In the structure shown in FIG. 9A, one transparent insulating film 46 substantially covers most of one pixel. The broken lines indicate the lines of electric force when a voltage is applied between the ITO electrodes 40 and 42. Because of the insulating film 46 (preferably transparent), the lines of electric force incline in the direction perpendicular to the ITO electrode 40.

Please replace the paragraph beginning on page 12, line 4, with the following rewritten paragraph:

A6

When no voltage is applied between the ITO electrodes 40 and 42, the liquid crystal molecules 45 of the liquid crystal 44 are orientated perpendicularly to the surface of the ITO electrode 40, as shown in FIG. 10A. FIG. 10 shows a vertical alignment layer 50 on the side of the transparent insulating films 46. When a voltage is applied between the ITO electrodes 40 and 42, the liquid crystal molecules 45 which are not covered with the transparent insulating films 46 start inclining along the inclination of the lines of electric force, as shown in FIG. 10B. If the applied voltage rises, the liquid crystal molecules 45 located at the transparent insulating films 46 start inclining, as shown in FIG. 10C. The liquid crystal molecules 45 then go through the stage shown in FIG. 10D. When the applied voltage becomes high enough, all the liquid crystal molecules 45 are almost parallel with the surface of the ITO electrode 40 while actually being orientated perpendicularly to the lines of the electric force.

Please replace the paragraph beginning on page 12, line 25, with the following rewritten paragraph:

By forming the insulating (preferably transparent) films 46 that vary the orientations of the electric field in a pixel region, the liquid crystal molecules become perpendicular to the lines of electric force created by the applied voltage. The orientations of the electric field vary, and a plurality of gradient orientations exist for the liquid crystal. As a result, the brightness variation becomes smaller over a wide range of viewing angles, and the viewing angle characteristics improve. Also, the occurrence of gradation inversion can be restricted.

Please replace the paragraph beginning on page 13, line 14, with the following rewritten paragraph:

In FIG. 9B, each transparent insulating film 46 covers most of one pixel. The broken lines indicate the lines of the electric force created when a voltage is applied between the ITO electrodes 40 and 42. Because of the transparent insulating films 46 and 48, the lines of electric force incline in the direction perpendicular to the ITO electrode 40.

Please replace the paragraph beginning on page 14, line 3, with the following rewritten paragraph:

In FIG. 9C, one single transparent insulating film 48 covers most of one pixel. The broken lines in FIG. 9C indicate the lines of electric force caused when a voltage is applied between the ITO electrodes 40 and 43. Because of the insulating film 48, the lines of electric force incline in the direction perpendicular to the ITO electrode 40.

A9

Please replace the paragraph beginning on page 14, line 11, with the following rewritten paragraph:

A10

Since the transparent insulating film 48 is formed on only one of the substrates while the other substrate is formed by the narrow striped ITO electrode 43, the orientations of the electric field in the pixel region can be greatly varied.

<u>In the Claims</u>:

Please cancel claims 2 and 17, without prejudice, and amend claims 1, 3, and 11 as follows:

A11

1. (Amended) A liquid crystal display device in which a pair of substrates having electrodes face each other, and liquid crystal is sealed between the substrates,

said liquid crystal display device including an insulating layer that varies electric field orientations in a pixel region when a voltage is applied between the pair of substrates.